

REMARKS

Applicants are amending their claims in order to further clarify the definition of various aspects of the present invention. Specifically, Applicants are cancelling claims 3-11 without prejudice or disclaimer. In addition, Applicants are amending claim 1 to define the “kneading region” previously set forth in claim 1. That is, Applicants have amended claim 1 to recite that the kneading region is from the downstream side of the supply orifice to the upstream side of the discharge orifice. Note, for example, and not to be limiting, kneading region 15 in Fig. 1, and the description in connection therewith, for example, on page 13, lines 13-17, of Applicants’ specification.

In addition, Applicants are adding new claims 12-18 to the application. Claim 12, dependent on claim 1, recites that the kneader further includes suction means connected to the suction hole, for discharging the volatile gas in the kneader through the suction hole while simultaneously introducing outside air to the kneader through the supply and discharge orifices, and wherein in the claimed method the volatile gas is discharged through the suction hole while simultaneously introducing outside air through the supply and discharge orifices by operation of the suction means. Note, for example, and not to be limiting, the structure represented by reference character 20 in Fig. 1, and the description in connection therewith on page 15, lines 14-21, of Applicants’ specification. Note also, for example, page 19, lines 6-17, of Applicants’ specification. Claims 13 and 14, each also dependent on claim 1, respectively recites that the kneader includes first and second axial members respectively conveying the kneaded material in the kneading region and conveying the kneaded material in a reverse direction to the conveying direction at a downstream side of the discharge orifice in the conveying direction; and recites that

the kneader includes a wall member surrounding the kneading region and a region downstream of the kneading region, in the conveying direction, with the wall member including an end wall at an end of the region downstream of the kneading region in the conveying direction, and the suction hole being provided in the end wall. In connection with claims 13 and 14, note, for example, reference characters 10a, 10b and 18 in Fig. 1, together with, for example, the descriptions in connection therewith in the paragraphs bridging pages 12 and 13, and in the last full paragraph on page 15, of Applicants' specification.

Applicants are also adding new claims 15-18 to the application, directed to an apparatus for manufacturing an epoxy resin composition for semiconductor encapsulating. Noting relationships between apparatus claims 15-18, on the one hand, and method claims 1, 2 and 12-14, on the other, it is respectfully submitted that claims 15-18 should be considered on the merits in the present application with claims 1, 2 and 12-14 notwithstanding that claims 1, 2 and 12-14, and claims 15-18, are directed to different classes of statutory matter.

Claim 15 recites an apparatus including supply and discharge orifices respectively disposed on an upstream side and on a downstream side, in the conveying direction, of a kneaded material; an axial member for conveying a kneaded material from the supply orifice to the discharge orifice while kneading; an inner wall provided around the axial member, forming a space inside as a kneading section; a suction hole provided on a downstream side of a kneading region in the conveying direction of the kneaded material, with the kneading region being defined; and a suction means provided connecting to the suction hole, for discharging a volatile gas in the kneader out of the kneader through the suction hole while simultaneously introducing outside air to the kneader through the supply and

discharge orifices. See, e.g., Fig. 1. Claim 16, dependent on claim 15, recites that the supply orifice and suction hole are provided such that the gas to be discharged from the kneader through the suction hole and quantity of outside air introduced through the supply orifice are in specified ranges. In connection with claim 16, note original claim 2.

Claim 17 recites that the apparatus includes a kneader provided with a suction hole on a downstream side of a kneading region in a conveying direction of the epoxy resin composition, and supply and discharge orifices respectively disposed on upstream and downstream sides in the conveying direction of epoxy resin composition in the apparatus, with the supply and discharge orifices and suction hole being provided such that in kneading the epoxy resin composition in the apparatus, a volatile gas in the kneader is discharged out of the kneader through the suction hole and outside air is simultaneously introduced to the kneader through the supply and discharge orifices. See Fig. 1. In connection with claim 17, see claim 1. Claim 18 expressly sets forth subject matter recited in claim 16, but is dependent on claim 17.

The rejection of claims 3-11 on prior art grounds, set forth in Items 4 and 5 on pages 3-5 of the Office Action mailed May 6, 2008, is moot, in light of cancelling of these claims 3-11 without prejudice or disclaimer.

Applicants respectfully traverse the rejection of claims 1 and 2 under the first paragraph of 35 USC 112, as failing to comply with the enablement requirement, set forth in Item 2 on page 2 of the Office Action mailed May 6, 2008, particularly insofar as this rejection is applicable to claims 1 and 2 as presently in the application. Thus, attention is respectfully directed to, for example, the paragraph bridging pages 15 and 16 of Applicants' specification, describing that with the structure as in the

present claims, “it is possible to knead while efficiently discharging a volatile gas in the kneading section out of the kneader through the suction hole 18 by actuating the suction means”, and such operation is carried out “[s]imultaneously while introducing outside air into the kneading section through the supply orifice and the discharge orifice of the kneader”. Clearly, Applicants assert in their specification the simultaneous introduction of outside air through the supply orifice and the discharge orifice, while discharging the volatile gas through the suction hole, with the apparatus that has the suction hole. Note also, for example, the sole full paragraph on page 18 of Applicants’ specification, also referring to introduction of outside air positively into the kneader through both the discharge orifice 17 and the introducing pipe 40 of supply orifice 16 while kneading.

In addition, attention is respectfully directed to the Examples starting from page 22 of Applicants’ specification. Note that in Examples 1-4, the mixture was kneaded while carrying out suction, while in the Comparative Example the mixture was kneaded without carrying out the suction.

In Item 2 on page 2 of the Office Action mailed May 6, 2008, the Examiner contends that “[s]ince the discharge orifice section of a kneading device is expected to be highly pressurized, it is unclear how one can effectively introduce ‘outside air’, which presumably has a pressure of around 14.7 psi into the kneading device via the discharge orifice”. The Examiner does not refer to the suction hole, but it is respectfully submitted that as is clear from Applicants’ specification, by use of the suction structure of the present invention, outside air can be introduced into both the supply and discharge orifices.

Moreover, and contrary to the contrary to the contention by the Examiner, it is respectfully submitted that, however, that when the actual usual kneader for a resin

composition for encapsulation is operated, pressure of the inside comprising not only the kneaded material but also gas (the volatilized gas and air) is not high. The supply orifice 16 and discharge orifice 17 are open, except for specific kneaders whose kneading section is closed in order to maintain a reduced pressure in the kneader, for example, Japanese Patent No. 3009027 discussed in the paragraph bridging pages 2 and 3 of Applicants' specification.

In the case where a kneader has no part such as suction hole 18 (see present Fig. 1), the gas in the kneader volatilized from the kneaded material ordinarily moves towards the discharge orifice 17, because it is easier for the gas to move downstream and out through the discharge orifice rather than to the supply orifice 16 against the stream.

On the other hand, in the case where a kneader has a suction hole 18 on the downstream of the kneading region as in the present invention, the discharge orifice 17 would introduce outside air into the kneader, because the suction hole 18 can discharge gas inside the kneader, which would include not only volatile gas but also air.

Thus, contrary to the contention by the Examiner, it is respectfully submitted that there is not a large pressure within the kneader, and that the pressure is not so large at the discharge orifice such that outside air could not be introduced. It is respectfully submitted that the Examiner has not established that Applicants fail to comply with the enablement requirement in connection with claims 1 and 2, particularly as presently amended. To the contrary, in view of averments and description in Applicants' original disclosure concerning operation of the presently claimed method and apparatus, it is respectfully submitted that the Examiner has not

September 8, 2008

satisfied his burden of showing a lack of enablement. See In re Bowen, 181 USPQ 48 (CCPA 1974); In re Dinh-Nguyen, 181 USPQ 46 (CCPA 1974).

In view of the foregoing comments and amendments, entry of and consideration of all of the claims presently in the above-identified application, and allowance of all claims presently pending in the above-identified application, are respectfully requested.

To the extent necessary, Applicants hereby petition for an extension of time under 37 CFR 1.136. Kindly charge any shortage of fees due in connection with the filing of this paper, including any extension of time fees, to the Deposit Account of Antonelli, Terry, Stout & Kraus, LLP, Account No. 01-2135 (case 1204.44837X00), and please credit any overpayments to such Deposit Account.

Respectfully submitted,

ANTONELLI, TERRY, STOUT & KRAUS, LLP

By /William I. Solomon/
William I. Solomon
Registration No. 28,565

WIS/ksh
1300 17th Street N., Suite 1800
Arlington, Virginia 22209
Tel: 703-312-6600
Fax: 703-312-6666